



AON1110E Smart Optical Receiver

Quick Reference Guide

Revision C

ACT AON1110E Smart Optical Receiver

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ACT Document Number: ACT AON1110E Smart Optical Receiver QRG

Quick Reference Guide Revision C

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This document is produced to assist professional and properly trained personnel with installation and maintenance issues for the product. The capabilities, system requirements and/or compatibility with third-party products described herein are subject to change without notice.

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Revision History

Revision	Date	Reason for Change
A	12/09/2024	Initial release
B	05/23/2026	Update format

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1 Product Summary

AON1110E Series Optical Receiver is part of ACT's Deep Fiber solution, which has been designed to deliver high-quality CATV and other advanced services. This cost-effective compact mini receiver helps operators expand the bandwidth of their existing HFC network while minimizing capital investment. The AON1110E compact node has smart LED, SNMP, and Web GUI for convenient management and is suitable for MDU, FTTB or FTTC applications with high output up to 116 dBμV.

The AON1110E deep fiber node is equipped with an Automatic Gain Control circuit to maintain constant output power with optical input from -9 dBm to +2 dBm. Combined with ACT's converged headend AH1000 optical platform, AON1110E series deep fiber optical node is an ideal product to provide MSOs with an economical, flexible HFC access solution.

AON1110E node provides the web management interface to support the remote monitoring capability in advanced network management system.

2 Performance Characteristics

- Adopt advanced optical AGC control technique, the maximum AGC control range(adjustable) is - 9 to + 2dBm
- RF amplifier part adopts the high performance low power consumption GaAs chip, which makes the output level higher
- EQ and ATT both use the professional electric control circuit, make the control more accurate, operation more convenient
- Built-in Ethernet transponder, support remote network management(optional)
- Compact structure, convenient installation, is the first choice equipment of FTTB CATV network
- External high-reliability, low-power DC power supply

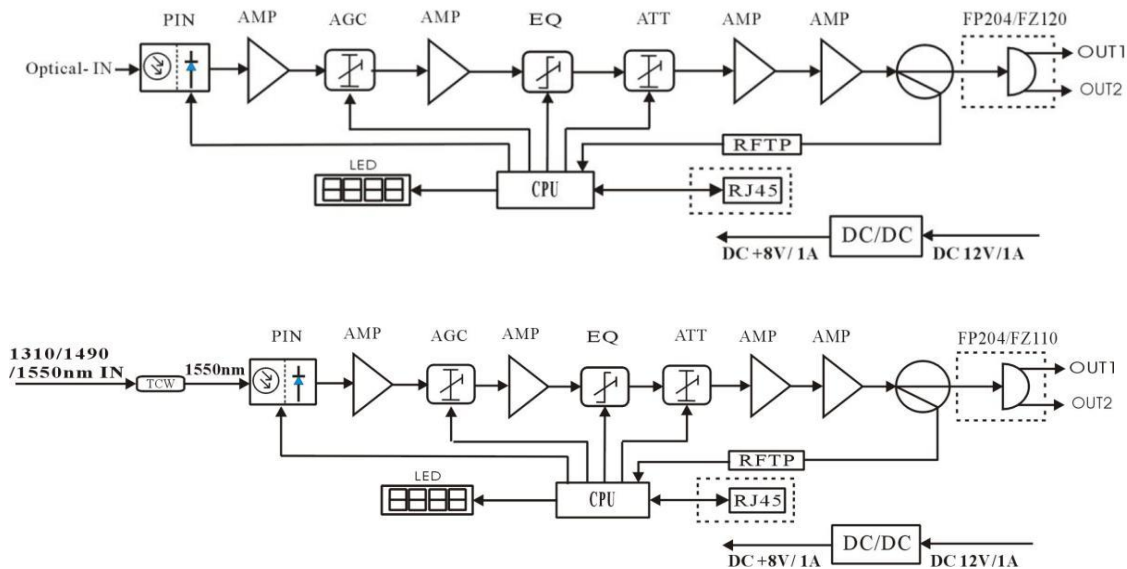
3 Technical Specifications

Item	Unit	Technical Parameters	
Optical Parameters			
Receiving Optical Power	dBm	-9 to +2	
Optical Return Loss	dB	>45	
Optical Receiving Wavelength	nm	1100 to 1600 or 1530 to 1620	
Optical Connector Type		SC/APC or FC/APC	
Fiber Type		Single mode	
Link Parameters			
C/N	dB	≥51	42ch, OMI=4.0%, Pin=-2dBm, EQ=9dB,116dBuV@ FZ120 output
C/CTB	dB	≥60	
C/CSO	dB	≥62	
RF Parameters			
Frequency Range	MHz	45 to 862/1003	
Flatness In Band	dB	±0.75(Slope: 5.5±1dB)	
Rated Output Level	dBμV	116(FZ120)	
Max Output Level	dBμV	118(AGC:-7 to +2 tap)	
RF Test Port (OUT2)	dB	-20	

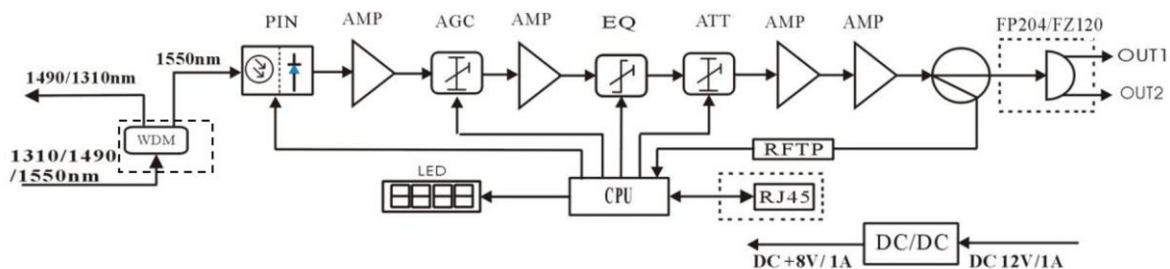
Item	Unit	Technical Parameters
Output Return Loss	dB	≥16
Output Impedance	Ω	75
Electrical EQ Control Range	dB	0 to 20(0.5dB step)
Electrical ATT Control Range	dB	0 to 20(0.5dB step)
General Characteristics		
Power Voltage	V	DC12V/1A
Operating Temperature	°C	-20 to 55
Power Consumption	VA	≤8.5
Dimension	mm	178(L) x 115(W) x 40(H)

4 Block Diagram

Standard Optical Receiver



Optical Receiver with PON Passthrough



Note: The dashed box indicates the customizable options during ordering.

5 Ordering Information

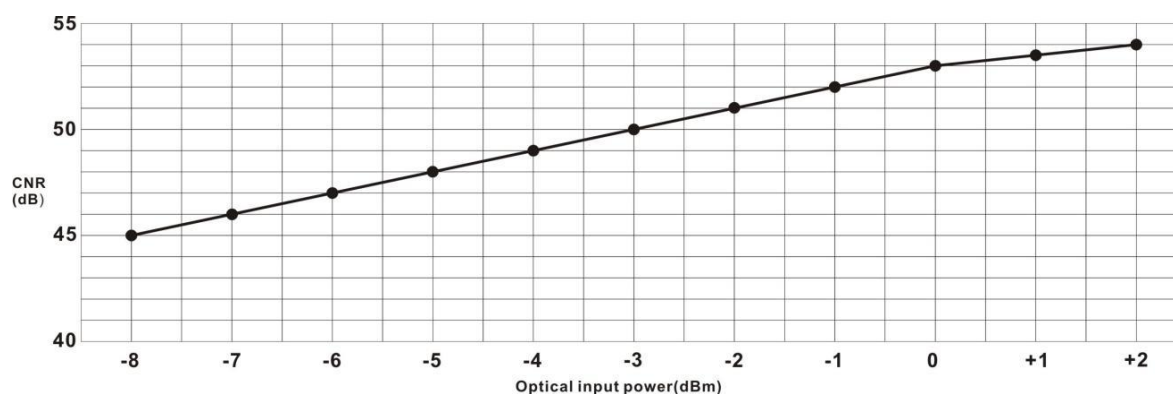
Product Name	Product Description
AON1110E-S-00-AS-2-1	AON1110E 1 GHz single input optical receiver, one RF output with Web GUI and SNMP, SC/APC, external power adapter

6 Structure Description



NO.	NC / WF	WD	Remark
1	Status Display Digital Tube	Status Display Digital Tube	
2	Control Mode Selection Button	Control Mode Selection Button	
3	Parameter Adjustment Button: Up	Parameter Adjustment Button: Up	
4	Parameter Adjustment Button: Down	Parameter Adjustment Button: Down	
5	DC12V Power Input	DC12V Power Input	
6	RJ45 Network Management Interface	RJ45 Network Management Interface	*Only the models with SNMP modules has this interface
7	Optical Signal Input	Optical Signal Input	
8	-	PON Port	Connector type is only for SC
9	RF output 2 or RF test port	RF output 2 or RF test port	
10	RF output 1	RF output 1	

7 Relation Table Of Input Optical Power And CNR



8 WEB Network Management

- Opening the IE browser and entering the equipment IP address leads to the following interface:

Оптический приемник ASCENT

Имя пользователя:	admin
Пароль:	
Очистить	OK

- Enter the User Name **admin** and Password **ascent** (factory default), to show the following interface.

Оптический приемник AON1110E Optical Receiver
 Управление устройством
 Версия SW: V6.2.3 2025-12-09

1. Параметры устройства
 2. Общие параметры
 3. Параметры TTap сервера
 4. Параметры сети
 5. Изменить пароль
 6. обновление

Параметр	Значение
Уровень оптич. Входа	-99.9dBm
+10V	9.7V
Эквалайзер	0dB
Аттенюатор	0dB
Количество каналов	84
RF уровень	0dBuV
Уровень АРУ	-9dBm

Эквалайзер	0 ▾	Сохранить
Аттенюатор	0 ▾	Сохранить
Уровень АРУ	-9 ▾	Сохранить
Количество каналов	084	Сохранить

- Click Common Parameters to learn the common information of device in this interface.

Оптический приемник AON1110E Optical Receiver

Управление устройством
Версия SW: V6.2.3 2025-12-09

Общие параметры

Серийный номер	SN-OPRV-0000001
Модель	AON1110E
MAC	30-71-b2-14-72-58
Температура	33°C
Текущая версия ПО	V6.2.3 2025-12-09
Обновить	

1. Параметры устройства
2. Общие параметры
3. Параметры Trap сервера
4. Параметры сети
5. Изменить пароль
6. обновление

- Click Trap Parameters to set the trap address in this interface.

Оптический приемник AON1110E Optical Receiver

Управление устройством
Версия SW: V6.2.3 2025-12-09

Номер	адрес Trap сервера	
1	192.168.1.156	Редактировать
2	0.0.0.0	Редактировать
3	0.0.0.0	Редактировать
4	192.168.1.113	Редактировать

1. Параметры устройства
2. Общие параметры
3. Параметры Trap сервера
4. Параметры сети
5. Изменить пароль
6. обновление

- Click Network Parameters to set the related network parameters in this interface.

Оптический приемник AON1110E Optical Receiver

Управление устройством
Версия SW: V6.2.3 2025-12-09

Параметры сети

IP адрес	192.168.1.168
Шлюз	192.168.1.1
Маска подсети	255.255.255.0
сохранить	
DHCP Status	disable
DHCP Select	disable ▾
сохранить	

1. Параметры устройства
2. Общие параметры
3. Параметры Trap сервера
4. Параметры сети
5. Изменить пароль
6. обновление

6. If you want to modify the password, please click Authentication to set the new password in this interface.

The screenshot shows the web interface for the AON1110E Optical Receiver. On the left is a blue sidebar with the ASCENT logo and a menu with six items: 1. Параметры устройства, 2. Общие параметры, 3. Параметры Trar сервера, 4. Параметры сети, 5. Изменить пароль, and 6. обновление. The main content area has a blue header with the title 'Оптический приемник AON1110E Optical Receiver' and subtitle 'Управление устройством' and 'Версия SW: V6.2.3 2025-12-09'. Below the header is a form titled 'Изменить пароль'. The form contains four fields: 'Имя пользователя:' with the value 'admin', 'Старый пароль:', 'Новый пароль:', and 'Новый пароль:'. At the bottom of the form are two buttons: 'Очистить все' and 'Сохранить'.

7. Click Update Firmware to update the firmware of the device in this interface.

The screenshot shows the web interface for the AON1110E Optical Receiver. On the left is a blue sidebar with the ASCENT logo and a menu with six items: 1. Параметры устройства, 2. Общие параметры, 3. Параметры Trar сервера, 4. Параметры сети, 5. Изменить пароль, and 6. обновление. The main content area has a blue header with the title 'Оптический приемник AON1110E Optical Receiver' and subtitle 'Управление устройством' and 'Версия SW: V6.2.3 2025-12-09'. Below the header is a form titled 'Обновление ПО'. The form contains a section 'Выберите файл обновления' with a file selection area showing 'Select the file', 'No file is selected', and a 'Загрузить' button. Below this is a text label 'текущая версия: V6.2.3 2025-12-09'.

9 Function Display And Operating Instruction

Mode: Mode selection button, total eight modes. Press the mode selection button to enter the corresponding status display, eight modes to cycle. The following is the detailed instructions :

- Mode 1:**  Input optical power (unit dBm)
Lo: Means that the optical power is low or none
1: Means that the displayed data is the input optical power
- Mode E:**  RF equilibrium, press “▲” or “▼” button for a few seconds until the data flicker. Then adjust and press “Mode” to confirm. The maximum adjustment range is 20dB.
E: EQ mode, means that the controlled and displayed data is the RF channel equilibrium.
- Mode A:**  RF attenuation, press “▲” or “▼” button for a few seconds until the data flicker. Then adjust and press “Mode” to confirm. The maximum adjustment range is 20dB.
A: ATT mode, means that the controlled and displayed data is the RF channel attenuation.
- Mode 2:**  The actual number of channels enters into the current network system. Press “▲” or “▼” button for a few seconds until the data flicker. Then adjust and press “Mode” to confirm. The maximum number is 200.
2: The menu is used to display the actual number of channels enters into the current network system, in order to calculate the RF output level more accurately.
- Mode 3:**  RF output level (unit dBuV)
3: Means that the displayed data is the RF output level under the current system.
- Mode 4:**  Working temperature (unit℃)
4: Means that the displayed data is the internal actual ambient temperature.
- Mode 5:**  The actual value of +10V working voltage
5: Means that the displayed data is the actual voltage of +10V
- Mode AG:**  AGC adjustment range (adjustment range -7~-9dBm)
 Press “▲” or “▼” button for a few seconds until the data flicker. Then adjust and press “Mode” to confirm.
AG: Means that the AGC range under the current system is +2~-9dBm
 If the displayed data is -7, means that the AGC range is +2~-7dBm
 If the displayed data is -8, means that the AGC range is +2~-8dBm

Note: AGC range per reduce 1dBm, the RF output is raised by 2 dB

10 Clean And Maintenance Method Of The Optical Fiber Connector

In many cases we consider the decline in optical performance as a device failure, but in fact it may be because the fiber optic connector has been contaminated by dust or dirt. Therefore, a first step should be an inspection of the fiber connector, component, or bulkhead with a fiberscope. If the connector is dirty, clean it with a cleaning technique following these steps:

- (1) Turn off the device power supply and carefully pull off the optical fiber connector from the adapter.
- (2) Wash carefully with good quality lens wiping paper and medical absorbent alcohol cotton. If use the medical absorbent alcohol cotton, still need to wait 1~2 minutes after wash, let the connector surface dry in the air.
- (3) Cleaned optical connector should be connected to optical power meter to measure the optical output power to confirm that the optical connector is completely cleaned.
- (4) When connecting the cleaned optical connector back to adapter, you only should use appropriate force to avoid a damage of the ceramic tube.
- (5) The optical fiber connector should be cleaned in pairs. If the optical power is still too low after cleaning, the adapter may be also soiled and need to be cleaned as well. (Note: the adapter should be cleaned carefully to avoid damaging the fiber inside.)
- (6) When cleaning the adapter, special compressed air or degreasing alcohol swabs can be used for cleaning. When cleaning with compressed air, aim the nozzle of the compressed air tank at the ceramic tube of the adapter and blow the compressed air into the ceramic tube for cleaning. When cleaning with a degreased alcohol cotton swab, carefully insert the alcohol cotton swab into the ceramic tube for cleaning. Note that the insertion direction of the alcohol cotton swab should always be consistent, otherwise the ideal cleaning effect may not be achieved



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Ver. ACT_AON1110E_Optical_Node_QRG_V1c_May_2025